

# Pil-Ryung Cha

## List of Publications by Year in descending order

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49  
papers

1,592  
citations

430874

18  
h-index

289244

40  
g-index

49  
all docs

49  
docs citations

49  
times ranked

2702  
citing authors

#	ARTICLE	IF	CITATIONS
1	Mechanism for self-formation of Al matrix composites using nitridation-induced manufacturing processes. <i>Journal of Materials Research and Technology</i> , 2022, 18, 2331-2342.	5.8	5
2	Factors that control stability, variability, and reliability issues of endurance cycle in ReRAM devices: A phase field study. <i>Journal of Applied Physics</i> , 2022, 131, .	2.5	3
3	Phase-field model with relaxation of the partition coefficient. <i>Computational Materials Science</i> , 2021, 188, 110184.	3.0	6
4	Electric field induced charge migration and formation of conducting filament during resistive switching in electrochemical metallization (ECM) memory cells. <i>Journal of Applied Physics</i> , 2020, 128, .	2.5	8
5	Effect of hydrogen derived from oxygen source on low-temperature ferroelectric TiN/Hf <sub>0.5</sub> Zr <sub>0.5</sub> O <sub>2</sub> /TiN capacitors. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	21
6	The n- and p-type thermoelectric response of a semiconducting Co-based quaternary Heusler alloy: a density functional approach. <i>Journal of Materials Chemistry C</i> , 2019, 7, 7664-7671.	5.5	20
7	A Finite Element Model for Stochastic Set Operation in Phase-Change Memory. , 2019, , .		0
8	Effects of alloying elements on the stability and mechanical properties of Fe <sub>3</sub> Al from first-principles calculations. <i>Computational Materials Science</i> , 2018, 146, 303-309.	3.0	11
9	Plausible carrier transport model in organic-inorganic hybrid perovskite resistive memory devices. <i>AIP Advances</i> , 2018, 8, .	1.3	3
10	Effects of mobile charged defects on current-voltage behavior in resistive switching memories based on organic-inorganic hybrid perovskite. <i>Applied Physics Letters</i> , 2018, 113, .	3.3	13
11	Dislocation driven spiral and non-spiral growth in layered chalcogenides. <i>Nanoscale</i> , 2018, 10, 15023-15034.	5.6	24
12	Nano Si embedded SiO <sub>x</sub> -Nb <sub>2</sub> O <sub>5</sub> -C composite as reversible lithium storage materials. <i>Journal of Alloys and Compounds</i> , 2017, 699, 351-357.	5.5	14
13	Enhanced Endurance Organolead Halide Perovskite Resistive Switching Memories Operable under an Extremely Low Bending Radius. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 30764-30771.	8.0	135
14	A carrier transport model in the high-resistance state of lead-methylamine iodide-based resistive memory devices. <i>AIP Advances</i> , 2017, 7, 085207.	1.3	5
15	Long-term clinical study and multiscale analysis of in vivo biodegradation mechanism of Mg alloy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, 716-721.	7.1	337
16	Structural Modification of Self-Organized Nanoporous Niobium Oxide via Hydrogen Treatment. <i>Chemistry of Materials</i> , 2016, 28, 1453-1461.	6.7	50
17	Reassessing the atomic size effect on glass forming ability: Effect of atomic size difference on thermodynamics and kinetics. <i>Intermetallics</i> , 2016, 69, 123-127.	3.9	3
18	Size-dependent transition of the deformation behavior of Au nanowires. <i>Nano Research</i> , 2015, 8, 941-947.	10.4	15

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19	Catalytic activity for oxygen reduction reaction on platinum-based core-shell nanoparticles: all-electron density functional theory. <i>Nanoscale</i> , 2015, 7, 15830-15839.	5.6	34
20	Numerical Analysis of Sapphire Single Crystal Growth Using the Vertical-Horizontal Gradient Freezing (VHGF) Method. <i>Journal of Korean Institute of Metals and Materials</i> , 2015, 53, 28-34.	1.0	0
21	Nanocapillarity-induced elasticity in nanotubular structures. <i>Electronic Materials Letters</i> , 2014, 10, 525-528.	2.2	0
22	The modification of microstructure to improve the biodegradation and mechanical properties of a biodegradable Mg alloy. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2013, 20, 54-60.	3.1	28
23	First-Principles Study of the Interfaces between Fe and Transition Metal Carbides. <i>Journal of Physical Chemistry C</i> , 2013, 117, 187-193.	3.1	27
24	Size Effects on the Stabilization and Growth of Tetragonal ZrO <sub>2</sub> Crystallites in a Nanotubular Structure. <i>Journal of Nanoscience and Nanotechnology</i> , 2012, 12, 3177-3180.	0.9	4
25	Monte Carlo simulations of the structure of Pt-based bimetallic nanoparticles. <i>Acta Materialia</i> , 2012, 60, 4908-4916.	7.9	71
26	Effect of micro-elasticity on grain growth and texture evolution: A phase field grain growth simulation. <i>Computational Materials Science</i> , 2012, 56, 58-68.	3.0	16
27	Atomic Layer Deposition of Dielectrics on Graphene Using Reversibly Physisorbed Ozone. <i>ACS Nano</i> , 2012, 6, 2722-2730.	14.6	115
28	Analysis of Transformation Plasticity in Steel Using a Finite Element Method Coupled with a Phase Field Model. <i>PLoS ONE</i> , 2012, 7, e35987.	2.5	18
29	Superplastic Deformation of Defect-Free Au Nanowires via Coherent Twin Propagation. <i>Nano Letters</i> , 2011, 11, 3499-3502.	9.1	189
30	First principles study of Si etching by CHF <sub>3</sub> plasma source. <i>Applied Surface Science</i> , 2011, 257, 8767-8771.	6.1	6
31	Characterization of plasma-sprayed Y <sub>2</sub> O <sub>3</sub> coating and investigation of its visual aspect change. <i>Surface and Coatings Technology</i> , 2011, 205, 3341-3346.	4.8	16
32	A new method of constructing physics-based nano-crystalline atomic structures for molecular dynamics simulation. <i>Computational Materials Science</i> , 2010, 49, 634-640.	3.0	3
33	Phase Field Study on the Austenite/Ferrite Transition in Low Carbon Steel. <i>Materials and Manufacturing Processes</i> , 2010, 25, 106-110.	4.7	14
34	Abnormal grain growth induced by sub-boundary-enhanced solid-state wetting: Analysis by phase-field model simulations. <i>Acta Materialia</i> , 2009, 57, 838-845.	7.9	74
35	Origin of Ferromagnetism and Long-range Interactions of Cu in GaN: Chemical Bonding and Electronegativity Approaches. <i>Journal of the Korean Physical Society</i> , 2009, 55, 1013-1017.	0.7	2
36	Influence of epitaxial strain on the terrace and inter-layer diffusions in metal epitaxy. <i>Applied Surface Science</i> , 2006, 253, 2776-2784.	6.1	2

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37	In situ observation of the grain growth of the copper electrodeposits for ultralarge scale integration. Applied Physics Letters, 2006, 89, 161924.	3.3	13
38	Capillarity and electromigration effects on asperity contact evolution in microelectromechanical systems switches. Journal of Applied Physics, 2006, 100, 054502.	2.5	8
39	Phase-field model for multicomponent alloy solidification. Journal of Crystal Growth, 2005, 274, 281-293.	1.5	36
40	A phase field model for phase transformation in an elastically stressed binary alloy. Modelling and Simulation in Materials Science and Engineering, 2005, 13, 299-319.	2.0	15
41	Molecular dynamics simulation of single asperity contact. Acta Materialia, 2004, 52, 3983-3996.	7.9	65
42	A phase field model for electromigration-induced surface evolution. Metals and Materials International, 2003, 9, 279-286.	3.4	6
43	A numerical analysis of fluid flow, heat transfer and solidification in the bending-type square billet continuous casting process. Metals and Materials International, 2002, 8, 111-117.	3.4	9
44	Numerically optimal design for the system with coupled complex transport phenomena-application to the Submerged Entry Nozzle in continuous slab caster. Metals and Materials International, 2002, 8, 119-127.	3.4	2
45	A phase field model for the solute drag on moving grain boundaries. Acta Materialia, 2002, 50, 3817-3829.	7.9	52
46	The effect of a uniform direct current magnetic field on the stability of a stratified liquid flux/molten steel system. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2000, 31, 317-326.	2.1	6
47	3D Numerical Analysis on Electromagnetic and Fluid Dynamic Phenomena in a Soft Contact Electromagnetic Slab Caster.. ISIJ International, 1998, 38, 403-410.	1.4	20
48	Numerical Analysis of the Influences of Operational Parameters on the Fluid Flow and Meniscus Shape in Slab Caster with EMBR.. ISIJ International, 1997, 37, 659-667.	1.4	54
49	Numerical Analysis on Cold Crucible Using 3D H-PHI. Method and Finite Volume Method with Non-staggered BFC Grid System.. ISIJ International, 1996, 36, 1157-1165.	1.4	14